

[54] **BLOOD SUBSTITUTE CONTAINING
MODIFIED HEMOGLOBIN**

[75] Inventors: Yuji Iwashita, Kawasaki; Katsumi
Ajisaka, Yokohama, both of Japan

[73] Assignee: Ajinomoto Company, Incorporated,
Tokyo, Japan

[21] Appl. No.: 167,360

[22] Filed: Jul. 10, 1980

[30] **Foreign Application Priority Data**

Jul. 11, 1979 [JP] Japan 54-87910

[51] Int. Cl.³ A61K 31/74; A61K 37/00

[52] U.S. Cl. 424/78; 424/177;
260/112 R

[58] Field of Search 424/177, 78; 260/112.5,
260/112 R

[56] **References Cited
PUBLICATIONS**

Sasakawa et al., Chem. Abst., vol. 77, (1972), p. 71989e.
Pace et al., Chem. Abst., vol. 79, (1973), p. 112553v.
Tam et al., Chem. Abst., vol. 85, (1976), p. 83209d.

Primary Examiner—Sam Rosen

Attorney, Agent, or Firm—Oblon, Fisher, Spivak,
McClelland & Maier

[57] **ABSTRACT**

A novel modified hemoglobin was prepared. The hemoglobin is coupled with a polyalkylene glycol or its derivative, and the products are useful as a blood substitute. The oxygen-carrying capacity of this hemoglobin is nearly equal to that of a native hemoglobin, and the residence time in the circulation is satisfactorily long.

7 Claims, 2 Drawing Figures